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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,737	08/13/2001	Son Ky Quan	SC09785T CD1	7252
23125	7590	01/29/2003	EXAMINER NGO, HUNG V	
MOTOROLA INC AUSTIN INTELLECTUAL PROPERTY LAW SECTION 7700 WEST PARMER LANE MD: TX32/PL02 AUSTIN, TX 78729			ART UNIT 2831	PAPER NUMBER 14
DATE MAILED: 01/29/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/928,737	Applicant(s) Quan et al
	Examiner Hung V. Ngo	Art Unit 2831
<i>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</i>		
Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.		
- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).		
Status		
1) <input type="checkbox"/> Responsive to communication(s) filed on _____.		
2a) <input checked="" type="checkbox"/> This action is FINAL. 2b) <input type="checkbox"/> This action is non-final.		
3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11; 453 O.G. 213.		
Disposition of Claims		
4) <input checked="" type="checkbox"/> Claim(s) <u>14-22</u> is/are pending in the application.		
4a) Of the above, claim(s) <u>14-16</u> is/are withdrawn from consideration.		
5) <input type="checkbox"/> Claim(s) _____ is/are allowed.		
6) <input checked="" type="checkbox"/> Claim(s) <u>17-22</u> is/are rejected.		
7) <input type="checkbox"/> Claim(s) _____ is/are objected to.		
8) <input type="checkbox"/> Claims _____ are subject to restriction and/or election requirement.		
Application Papers		
9) <input type="checkbox"/> The specification is objected to by the Examiner.		
10) <input type="checkbox"/> The drawing(s) filed on _____ is/are a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).		
11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action.		
12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner.		
Priority under 35 U.S.C. §§ 119 and 120		
13) <input type="checkbox"/> Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) <input type="checkbox"/> All b) <input type="checkbox"/> Some* c) <input type="checkbox"/> None of: 1. <input type="checkbox"/> Certified copies of the priority documents have been received. 2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____. 3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).		
*See the attached detailed Office action for a list of the certified copies not received.		
14) <input type="checkbox"/> Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e). a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.		
15) <input type="checkbox"/> Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.		
Attachment(s)		
1) <input type="checkbox"/> Notice of References Cited (PTO-892)		
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)		
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s). <u>13</u>		
4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____		
5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)		
6) <input type="checkbox"/> Other: _____		

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 17-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Tuttle et al (US 5,612,513).

Tuttle et al disclose a packaged semiconductor device comprising: providing an interconnect substrate (44) having a plurality of substantially identical package sites arranged in an array, the plurality of sites being separated by a singulation space (Fig 3); mounting and interconnecting a semiconductor device (die)(abstract) within each site; and overmolding a single and continuous encapsulant (60) over each semiconductor device, the plurality of sites, and the singulation space (Fig 4)(re claim 17).

Re claim 18, wherein overmolding produces a top surface of the encapsulant which has a surface deviation of less than 0.13 millimeters across a length of the encapsulant (Fig 4).

Re claim 19, wherein the plurality of package sites are arranged in an array of at least four by four package sites (Fig 4).

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Re claim 20, further comprising the step of singulating the plurality of package sites after overmolding (col 6, lines 45-50).

Re claim 21, wherein singulating comprises sawing through the single and continuous encapsulant and the interconnect substrate along the singulation space (col 6, lines 45-50).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuttle et al
The teaching of Tuttle et al as discussed above does not disclose the step of handling each packaged semiconductor device with automated pick and place equipment.

It is well known in the electrical art to use automated equipment for handling semiconductor device. It would have been obvious to one having ordinary skill in the art at the time the invention was made use automated equipment for handling the semiconductor device.

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Response to Arguments

Applicant's arguments filed 06-27-2002 have been fully considered but they are not persuasive.

Applicant argues (1) that Tuttle fails to disclose at least the recited step of "overmolding a single and continuous encapsulant. An overmolding process is a process in which a mold on one side of a substrate to define the final encapsulant shape and profile, (2) that Tuttle fails to disclose or suggest any specific dimension or dimensional relationship regarding the top surface of the encapsulant 60 other than that it has a substantially flat top surface, (3) that the examiner fail to provide an example of a materially different process that can be used. The examiner disagrees. With respect to (1), applicant's specification recites "dam-bar 18 could be a premanufactured frame applied to area 12 and overmolding or other techniques could be used for the encapsulating" (page 6, lines 6-9). Tuttle et al disclose a dam 54 which is equivalent to a mold or a frame on one side of the substrate 44 to define the final encapsulant shape and profile. With respect to (2), Tuttle et al recite "preferably, sufficient encapsulant 60 is utilized to give each enclosed circuit 42 a substantially flat top surface" (col 6, lines 56-57). A flat top surface has a zero surface deviation. With respect to (3), the package can be made without singulating the plurality of package sites.

This is a RCE of applicant's earlier Application No. 09/928737. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier

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application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung V. Ngo whose telephone number is (703) 308-7614. The examiner can normally be reached on Tuesday to Friday from 8:30 am to 06:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard, can be reached on (703) 308-3682.

The fax phone number for this Group is (703) 305-3431 or (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

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Hung V. Ngo

January 27, 2003

Hung V Ngo

HUNG V. NGO
PATENT EXAMINER